

**LESTES JERRELLI, N. SP. (ZYGOPTERA: LESTIDAE),
A NEW DAMSELFLY FROM ECUADOR**

K. J. TENNESSEN

1949 Hickory Ave., Florence, AL 35630, U.S.A.

Abstract.—*Lestes jerrelli*, n. sp., is described and illustrated from 13 males and 8 females (holotype ♂, allotype ♀, in copula: Ecuador, Napo Prov., pond 12.3 km W of Coca, elev. 250 m, 13 June 1995). It is related to *L. jurzitzi* Muzon and *L. paulistus* Calvert from Brazil, but is distinct in thoracic color pattern and shape of male paraprocts.

Key Words: Damselfly, *Lestes jerrelli*, new species, Ecuador

Lestes is a relatively large genus of damselflies, with about 80 species known worldwide (Bridges 1993), nearly half of these occurring in the western hemisphere. The latest description of a new species from tropical America was that of *Lestes jurzitzi* Muzon (1994) from Brazil. The new species described here was collected east of the Andes Mountains in Napo Province, Ecuador. It is mostly blue with narrow metallic green thoracic stripes, and is most closely related to *Lestes jurzitzi* based on color pattern and male appendage morphology. The new species was collected at a small pond and several small, shallow, temporary pools west of Coca, near the equator (0°27'S, 77°0'W). Aquatic vegetation varied from sparse to abundant.

***Lestes jerrelli* Tennessen, NEW SPECIES**
(Figs. 1-4, 8)

Holotype ♂: ECUADOR, Napo Province, pond along Loreto Road, 12.3 km W of junction with Coca Road, elev. 250 m, 13 June 1995, W. M. Mauffray, leg.; deposited in Florida State Collection of Arthropods (FSCA), Gainesville, Florida, USA.

Allotype ♀: in copula with holotype; deposited with holotype.

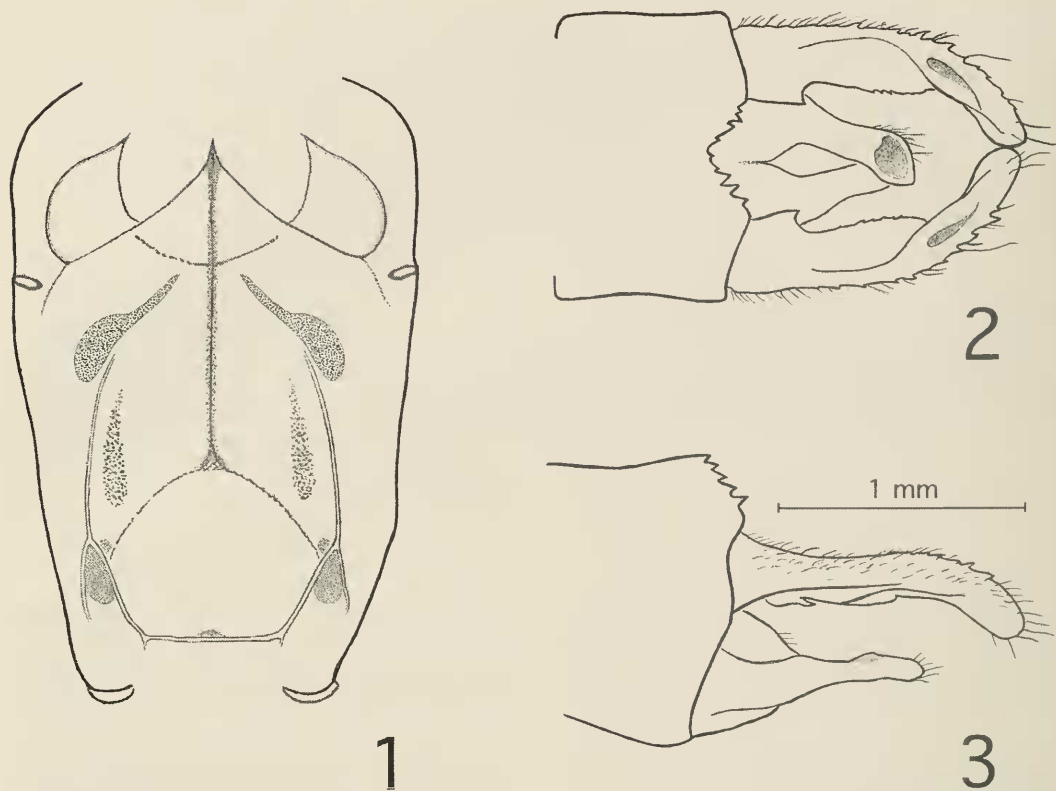
Paratypes (12 ♂, 7 ♀): Same data as holotype, 3 tandem pairs, K. J. Tennessen leg. (Coll. K. J. Tennessen); same data, 3 tandem pairs, W. M. Mauffray leg. (FSCA, International Odonatological Research Institute, Catholic Univ., Quito). ECUADOR, Napo Prov., temporary pool along Loreto Rd., 1.7 km W of junction with Coca Rd., 13 June 1995, K. J. Tennessen leg., 4 ♂, 1 tandem pair (KJT, Coll. R. W. Garrison); same data, 1 ♂, W. M. Mauffray leg., (National Museum of Natural History, Smithsonian Institution, Washington, D.C.).

Other specimens (not examined): In addition to Ecuador, *Lestes jerrelli* occurs in southern Peru: 2 ♂ in the Collection of R. W. Garrison and 2 ♂ and 1 ♀ in the National Museum of Natural History, Smithsonian Institution, are from Madre de Dios Dept., Hotel Amazonia, across from Atalaya, collected 27 June 1993.

Etymology.—This species is named for Jerrell J. Daigle in recognition of his contributions to New World odonatology and his enthusiasm for the study of dragonflies.

Holotype male.—General color pattern light blue with dark green metallic markings; eyes in life medium blue dorsally, light blue ventrally.

Head: Tips of mouthparts black; labrum

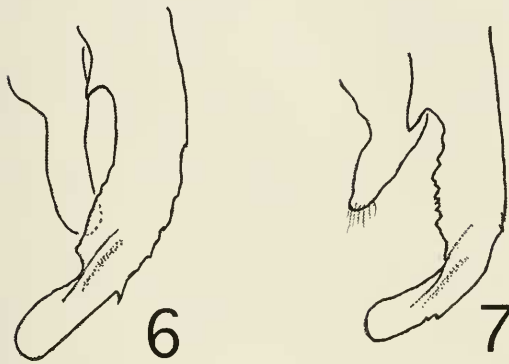
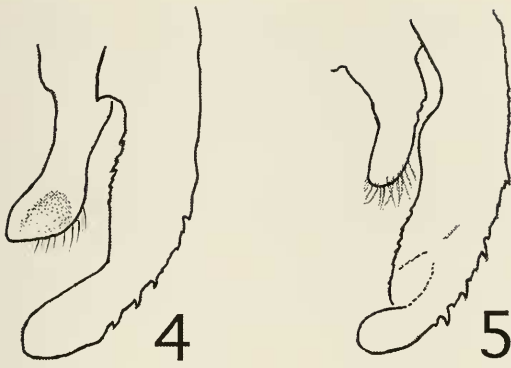


Figs. 1-3. *Lestes jerrelli*, male paratype. 1, Venter of male pterothorax. 2, Male appendages, dorsal view. 3, Male appendages, lateral view.

sky blue, distal margin black, and with a small, triangular, mediobasal black spot; base of mandible and gena blue, a lighter hue than labrum; anteclypeus mostly black, partly blue laterally; postclypeus, antefrons, antenna and postfrons black; occiput dark metallic green, with a small, blue tear-shaped postocular spot posterolateral to each lateral ocellus; rear of head greenish blue on upper half, tan near occipital foramen, black on lower half, partly pruinose.

Thorax: Prothorax largely blue dorsally, but middle lobe with a submedian pair of dark brown, outwardly curved stripes barely extending to anterior and posterior lobes, ending in small, oblong spots; epimeron 1 dark brown above, blue below. Pterothorax largely sky blue, except as follows: mid-dorsal stripe tan blue (light blue in life), about 0.3 mm wide at midlength, narrowed

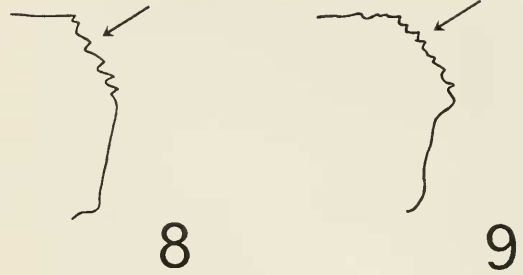
at each end by adjacent metallic, dark-green dorsal (mesepisternal) stripes 0.3 mm wide, parallel sided; katepisternum 2 with upper dark brown spot; mesopleural (humeral) suture light brown, posterior to which is an isolated, metallic, dark-green stripe about 0.3 mm wide, constricted in posterior fourth; metepimeron with an anterior, black oval spot visible in lateral view and extending anteromedially as a thin line nearly to midline of thoracic venter, and with a smaller posterior black spot below posterior carina, also visible in lateral view (Fig. 1); metapostepimeron blue; thoracic venter pale tan, pruinose, and with a diffuse, narrow, dark lateral stripe on each side and along the invaginated midline anterior to poststernum. Coxae partly pruinose, pro- and mesocoxae blue and light brown, metacoxa all brown; profemur black with inner



Figs. 4–7. Left male cercus and paraproct, dorsal view. 4, *Lestes jerrelli*, Peru, Madre de Dios Dept. 5, *Lestes pictus*, Brazil, Santa Catarina State. 6, *Lestes juritzai*, Brazil, Rondônia State. 7, *Lestes paulistus*, Brazil, Santa Catarina State. (Figs. 4–7 drawn by R. W. Garrison.)

surface pale tan in basal half, meso- and metafemora mostly black but with tan stripes on dorsal and ventral surfaces; tibiae black except extensor surfaces tannish blue; tarsi and claws black. All tergal and axillary sclerites blue; wings hyaline, with 13 or 14 postnodal crossveins in fore wing, 12 in hind wing; pterostigma dark brown, surmounting 2 cells, 1.40 mm long in hind wing.

Abdomen: (Abdominal segments designated with an S and a number, e.g., S1 = segment 1). S1 blue with very small submedian and sublateral dark spots, posterolateral and ventral carinae black; S2 blue with elongate dorsolateral dark metallic



Figs. 8–9. Posterior margin of male abdominal segment 10, Dorsolateral view. 8, *Lestes jerrelli*, Ecuador, Napo Prov. 9, *Lestes juritzai*, Brazil, Rondônia State. (Fig. 9 drawn by R. W. Garrison.)

green stripe about 0.4 mm wide, not reaching posterior margin of segment; S3 about 2.3 times as long as S2; S3 to S7 largely dark metallic green, S3 with narrow blue basal ring, S4 to S7 with small, blue, basolateral triangles, these connecting to ventrolateral blue stripes anteriorly and tan stripes posteriorly; S8 with narrow, dark basal ring, S8 and S9 pruinose, dark brown dorsally, reddish brown laterally; posterior margin of S10 with dorsal, stout, black spines (Figs. 2, 8). Cercus black, about 1.5 times longer than S10, in lateral view decurved in apical fourth (Fig. 3), in dorsal view curved inwardly (Fig. 2), outer margin with numerous stout spines, elongate dorsal subapical concavity present, basal tooth sharp, quadrate, ventromedial lobe slightly convex with about 6 to 8 small marginal teeth and a few smaller denticles; paraprocts black, in lateral view straight (Fig. 3), in dorsal view relatively stout (0.14 mm wide at narrowest point), directed inward and expanded at tip, dorsal surface of tip with shallow depression (Fig. 2).

Measurements (mm): Total length (including cercus) 40.0, abdomen length 32.0, hind wing length 21.2.

Allotype female:—Color pattern similar to male, blue hue less intense; other differences noted below.

Head: Labrum without mediobasal black spot; postclypeus dark brown; base of antenna and segments 1 and 2 partly tan; median ocellus surrounded by narrow tan

marking, lateral ocelli with oblong tan spot laterally.

Thorax: Prothorax greenish blue; pterothorax with blue area more extensively invaded by tan than in male; legs with pale stripes wider and longer than in male; wings with 13 postnodal crossveins in fore wing, 12 in hind wing; pterostigma 1.50 mm long.

Abdomen: S7 about 2.5 times as long as S8; apical segments darker than in holotype, S8 with dorsomedial, light brown oval spot; posterolateral corner of basal plate of ovipositor truncate; gonostyle 0.48 mm long; tips of ventral valves extending to posterior margin of S10; cercus 0.60 mm long, about 3/4 length of S10.

Measurements (mm): Total length (including cercus) 37.3, abdomen length 29.2, hind wing 21.7.

Variation in paratypes.—*Male:* labrum sky to medium blue, mediobasal black spot oval or triangular; katapisternum sometimes entirely blue; post-mesopleural metallic green stripe sometimes interrupted in apical fourth; wings sometimes slightly flavescent; 12 to 15 postnodals in fore wing, 11 to 15 in hind wing; pterostigma 1.15–1.40 mm long; S1 sometimes without small black spots. Total length 38.0–41.0 mm; abdomen length 30.5–33.0 mm; hind wing length 19.6–22.3 mm. *Female:* labrum sometimes with mediobasal black spot; wings usually flavescent; 12 to 14 postnodals in fore wing, 11 to 14 in hind wing; pterostigma 1.40–1.55 mm long; posterolateral corner of basal plate of ovipositor sometimes acutely angulate; cercus 0.56–0.62 mm long. Total length 36.0–39.5 mm; abdomen length 28.0–30.7 mm; hind wing length 21.0–23.3 mm.

COMPARISON WITH OTHER SPECIES

Lestes jerrelli belongs to a small group of South American species that have bright blue markings which includes *L. jurzitzi* and *L. paulistus* Calvert (1909) from Brazil, *L. pictus* Hagen in Selys (1862) from Brazil and Argentina, and *L. debellardi* De-

Marmels (1992) from Venezuela. In *L. pictus* and *L. debellardi*, the male cercus lacks a basal tooth (Fig. 5), and the paraproct is only about half as long as the cercus. *Lestes jerrelli* differs from *L. jurzitzi* and *L. paulistus* by the tips of the paraprocts being expanded and dorsally excavated (Figs. 2, 4); in most specimens of *L. jerrelli*, the tip of one of the paraprocts overlies the other. In dorsal view, the paraprocts of *L. jurzitzi* are parallel-sided and curve outward slightly (Fig. 6), whereas those of *L. paulistus* are acuminate, shorter, and angled inward (Fig. 7). The dorsal, posterior margin of abdominal segment 10 bears larger, stout spines in *L. jerrelli* (Fig. 8) compared to *L. jurzitzi* (Fig. 9). The dark thoracic stripes and anterior abdominal markings of *L. jurzitzi* are black (Muzon 1994); these markings in *L. paulistus* were black in specimens examined by Muzon (1994), although a male in the Collection of R. W. Garrison has metallic green thoracic stripes (personal communication). All specimens of *L. jerrelli* I examined have dark-green metallic thoracic stripes. In *L. jerrelli*, the dark-green stripe posterior to the mesopleural suture is complete at its anterior end, whereas in *L. jurzitzi* this stripe is interrupted anteriorly (see Muzon 1994, Fig. 1a); also in *L. jurzitzi*, the mesepisternal dark stripe has a lateroventrally directed arm at its posterior end. The color pattern on the venter of the pterothorax in *L. jerrelli* is similar to *L. jurzitzi* and *L. pictus* (see Calvert 1909, Plate 1, Fig. 11). However, Calvert's figure of *pictus* shows that the metepimeral black spot in *L. pictus* is not elongated into a narrow, anteromedially-directed stripe as in *L. jurzitzi* (see Muzon 1994, Fig. 1B and *L. jerrelli*, Fig. 1).

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LITERATURE CITED

- Bridges, C. A. 1993. Catalogue of the Family-group, Genus-group and Species-group Names of the Odonata of the World, 2nd ed. Charles A. Bridges, Urbana, Illinois, 806 pp.
- Calvert, P. P. 1909. Contributions to a knowledge of the Odonata of the neotropical region, exclusive of Mexico and Central America. *Annals of the Carnegie Museum* 6(1): 73–281.
- DeMarmels, J. 1992. Dragonflies (Odonata) from the Sierras of Tapirapeco and Unturan, in the extreme south of Venezuela. *Acta Biologica Venezuelica* 14(1): 57–78.
- Muzon, J. 1994. *Lestes jurzitai* spec. nov., a new damselfly from Rondônia, Brazil (Zygoptera: Lestidae). *Odonatologica* 23(3): 297–302.
- Selys, M. E. 1862. Synopsis des Agrionines. Seconde légion: Lestes. *Bulletin de l'Académie Royale de Belgique* (2)13: 288–338.